

FRANK C. LU, M.D.
CONSULTING TOXICOLOGIST
BOARD CERTIFIED FORENSIC EXAMINER

FOOD ADDITIVES, CONTAMINANTS
ENVIRONMENTAL CHEMICALS

7452 S.W. 143rd AVENUE
MIAMI, FLORIDA 33183
PHONE: 305-385-6226
FAX: 305-385-1350

8023 '99 APR 29 P2:13

7-
6870

APR. 29, 1999

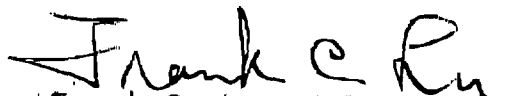
Docket Management Branch (HFA-305),
Food and Drug Administration,
5630 Fishers Lane, Room 1061,
Rockville, MD 20852

Sir/Madam:

As a scientist who has worked on irradiated food for a long time,
I would like to receive a copy of the possible labelling of such
food.

I attach the first page of a recent article of mine on irradiated
food to indicate my interest and expertise in this field..

Yours truly,


Frank C. Lu, M.D., BCFE.

98N-1038

C954

Technology, Vol. 6, pp. 89-94, 1999
 Printed in the USA. All rights reserved.

1072-9240/99 \$10.00 + .00
 Copyright © 1999 Cognizant Communication Corporation

IRRADIATED FOOD FOR THE PROTECTION OF CONSUMER HEALTH WITH SPECIAL EMPHASIS ON IRRADIATED MEAT

Frank C. Lu*
 Consulting Toxicologist, Miami, FL

TF 9805-511 M (Received 5 May 1998; accepted 1 July 1998)

The scientific data on the wholesomeness of irradiated food is critically reviewed. No toxic effect can be attributed to such foods. A few adverse effects observed in earlier studies have been shown to be a result of confounding factors. The radiolytic products are also found in unirradiated foods after conventional food processing, such as heating, and drying. Nutritionally, irradiated foods are not impaired; these foods are also microbiologically safe. The World Health Organization (WHO) Expert Committee at its 1980 meeting affirmed the wholesomeness of a number of irradiated foods, and concluded that the irradiation of food up to an overall dose of 10 kGy presents no toxicological hazards. This was reaffirmed in 1997 by a WHO Study Group.

INTRODUCTION

In July 1997, about 25 million pounds (11 Mg) of beef was recalled and destroyed. This drastic action was taken following an outbreak of hemorrhagic colitis, a serious and sometimes fatal disease. The outbreak was presumably associated with the consumption of beef contaminated with a special strain of *Escheria coli*. The nation was stunned by the occurrence of this serious foodborne disease and by the large economic loss.

On December 3, 1997, coincidentally or otherwise, the Food and Drug Administration (FDA) (1997) published the final rule on food irradiation, authorizing the treatment of meat with ionizing

radiation. It established 4.5 kGy as the maximum permitted dose for irradiation of refrigerated meat, meat products, and certain meat food products, and 7.0 kGy as the maximum permitted dose for irradiation of frozen meat, meat by-products, and certain meat food products. This rule is intended to improve the safety of beef by controlling foodborne pathogens, including *E. coli*.

Irradiation of foods, in fact, has been shown to be useful for a variety of technological purposes. For example, at low doses (up to 0.15 kGy), irradiation inhibits potatoes and onions from sprouting during storage. At somewhat higher doses (up to 1 kGy), it controls insect infestation in stored wheat, wheat products, and rice. At doses up to 2.2 kGy, it reduces the microbial load of packaged and unpackaged fish and fish products. At still higher doses, irradiation will eliminate microorganisms in foods.

*Editor's Note: The author has participated in the activities of the World Health Organization (WHO) since 1961 in a variety of capacities including Chief of Food Additives Unit; Secretary of Joint Expert Committee on Food Additives; Joint Expert Meeting on Pesticide Residues; Expert Committee on Wholesomeness of Irradiated Food; and Chairman of WHO Food Safety Program.